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OFFICE OF  
ECOSYSTEMS, TRIBAL AND  
PUBLIC AFFAIRS

October 23, 2009

Ralph Rau, Acting Forest Supervisor  
12730 Highway 12  
Orofino, ID 83544

**Subject: Small-Scale Suction Dredging in Lolo Creek and Moose Creek,  
Clearwater and Idaho Counties  
EPA Project Number: 04-025-AFS**

Dear Mr. Rau:

The U.S. Environmental Protection Agency (EPA) reviewed the draft supplemental Environmental Impact Statement (DSEIS) for the *Small-Scale Suction Dredging in Lolo Creek and Moose Creek* in Clearwater National Forest. Our review was conducted in accordance with EPA responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA).

The DSEIS is being developed to supplement the final EIS released in 2006 and associated Record of Decision (ROD), which was appealed. The DSEIS analyzes two action alternatives (Alternatives 2 and 3) associated with placer mining in reaches of Lolo Creek, Moose Creek and two tributaries (Independence Creek and Deadwood Creek). The proposal is to approve 18 operations in Lolo Creek and 38 in Moose Creek. Alternative 3 is identified as the Preferred Alternative and includes stream improvement projects to an abandoned mining claim in Lolo Creek.

The DSEIS does a good job discussing the issues generated from scoping, and the proposal includes operating conditions, design features, and mitigation measures that appear to be a thorough and a reasonable set of controls to mitigate for anticipated impacts. We appreciate the inclusion of the 9 monitoring requirements discussed and we support having interagency field trips to review mining sites to determine if additional mitigation measures are needed. Additionally, we are pleased to see that the Preferred Alternative includes a restoration component. The restoration activities proposed for the abandoned Lolo #5 mining claim, together with the proposed streambank stabilization should off-set some of the unavoidable impacts associated with the proposed action.

Although we support the above measures we have some concerns related to water quality based on lack of information and potential cumulative impacts. The DSEIS concludes that state water quality standards would not be exceeded for turbidity. This conclusion relies on observations from monitoring past operations and nearby projects. We are concerned that there is no detailed information on the data collected, stream conditions and location under which observations were made, and a level of uncertainty for predictions made. In addition, we believe

that the temporal scale of the water quality analysis is not adequate. The DSEIS does not identify the time frame covered by the approval of plans of operations, and the cumulative effects analysis is very limited in scale. This analysis only covers periods of time when suction dredging is occurring (i.e. 30 days for Lolo Creek, page 4-7). The document should consider impacts to water quality associated with suction dredging a stream reach over multiple years, and the cumulative effects of that activity along with other foreseeable actions in and around the project area. The EIS should state how long this approval period is for, and the cumulative effects analysis should consider more than the point in time when suction dredging is occurring. We have included additional detailed information regarding our above concerns and recommendations in the attached detailed comments. Based on our above concerns we have rated the DEIS, EC-2 (Environmental Concerns - Insufficient Information).

It should be noted that suction dredge mining operations are a point source discharge under the Clean Water Act. Section 3.1.1 of the DSEIS indicates that suction dredging is considered a non-point source for pollution by IDEQ. This statement is misleading and approval of plans of operations should be contingent on operators obtaining a National Pollutant Discharge Elimination System (NPDES) permit. Operating a suction dredge without a permit is a violation of the Clean Water Act. EPA is currently in the process of developing a "general NPDES permit" for suction dredge operations using nozzles that are 5 inches or less in diameter. It is our understanding that the operations analyzed in this DSEIS would be in this category. A fact sheet is attached that includes answers to common questions regarding suction dredge operations.

Thank you for the opportunity to provide comments on this DSEIS. If you have any questions please contact Lynne McWhorter at (206) 553-0205 or via email at [mcwhorter.lynne@epa.gov](mailto:mcwhorter.lynne@epa.gov).

Sincerely,

/s/

Teresa Kubo  
Acting Unit Manager  
Environmental Review and  
Sediment Management Unit

cc: US EPA Idaho Operations Office



## **EPA's Specific Comments on the DSEIS for Small-Scale Suction Dredging in Lolo Creek and Moose Creek**

### **Changes between Final EIS and DSEIS**

The DSEIS notes that the 2006 final EIS and ROD were appealed and that this supplemental EIS was developed to clarify the environmental analysis. The executive summary includes a short summary of changes between the 2006 final EIS and includes the following subjects: roadless area characteristics, water quality, cumulative effects, and irretrievable commitment of resources. It is not clear what changes were made based on the appeal and what the resulting modifications are to address those issues. The one reference to the appeal is that the effects to roadless areas were not adequately addressed in the final EIS. However, the discussion does not include specifics of what the issue was and the resulting changes other than providing a clarification that remote claims off existing roads and trails within roadless areas would be accessed by foot by miners. Regarding this topic, we support maintaining roadless areas and requiring foot access only in remote areas. Regarding the more general subject of previous issues and modifications, we recommend that the EIS include additional detail regarding the elements of the final EIS that were appealed and how these issues are addressed in this iteration.

### **Water Quality**

#### **Sediment and Turbidity**

We are glad to see that Lolo Creek is no longer identified as water quality impaired and that there are no other water quality listed streams in the project area. We believe that the terms and conditions (pre-mining site reviews, monitoring of plumes up to 150 feet below an operation, and others) to prevent degradation and address water quality seem to be appropriate. However, the analysis that forms the basis of the conclusion that violations of State water quality standards pertaining to turbidity would not be exceeded relies heavily on anecdotal information and observations from past operations in the project and nearby areas. The report cites monitoring conducted downstream of suction dredge operations on the South Fork Clearwater River to conclude that turbidity levels for this project are expected to remain low, of short duration (only while dredges are operating), and short distance (less than 150 feet). We recommend that you discuss the completeness of this information, as it is our recollection from a discussion on a field trip that monitoring on tributaries of the South Fork Clearwater below dredge operators observed highly turbid plumes in at least one case. This would suggest that potential turbidity impacts are possible, but dependent on various site-specific conditions and factors. Broad conclusions about the potential for violations of the water quality standard for turbidity should be tempered accordingly.

Section 4.1.2 discusses sediment effects and focuses on cobble embeddedness. This section is very general and concludes that there may be slight increases or decreases in the immediate vicinity of a dredging operation, but that overall cobble embeddedness levels are not expected to change. This approval seems to allow for a high density of dredging given the relatively small size of the streams and we are concerned with water quality both from a turbidity and bedload sediment standpoint. The cumulative effects section points out that "there would be no overall increase in instream sediment since it would only be moved from one location to the next." These conclusions seem to be based on a conceptual understanding of the physical processes involved. We recommend that the EIS include additional supporting information and



data to evaluate this issue. In addition to cobble embeddedness, we also recommend that you address questions related to streambed stability and structure. The issue of streambed stability becomes more relevant as you consider impacts over time. Suction dredging activities are likely to occur for many years, with operators moving or advancing their operation to new sections of streambed. With each successive year of operation, there would be more disturbance and redistribution of streambed sediment throughout the watershed.

The temporal scope of the DSEIS seems to be limited to the number of days suction dredges operate in a year versus looking at the life of the project. EPA has issued guidance on how we are to provide comments on the assessment of cumulative impacts, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (<http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf>.) One of the principles of this guidance is related to temporal scope and states that the life of the project is the most common temporal scope used and that this may not be appropriate if the effects last longer than the life of the project. Because we are unclear what the life of this approval period is, it is difficult to determine what the longer cumulative effects could be. The EIS should consider spatial and temporal boundaries that are not overly restricted in the cumulative impact analysis.

**Recommendations:**

- We recommend that the final EIS include detailed information about the data collected and level of uncertainty regarding conclusions related to water quality.
- We recommend including references and data that may be available from published studies to evaluate the issue of cobble embeddedness in the vicinity of the project and over the life of project.
- We recommend conducting a cumulative effects analysis that considers a temporal scale consistent with the life of this approval and continual dredging over time in the stream channel.

**Aquatic Habitat and Species**

Section 4.2 quantifies the amount of disturbance that would occur in linear feet and percentage of stream channel in the project areas (0.4 miles or approx. 3% of Lolo Creek and 0.5 or approx. 3% of Moose Creek). The EIS should clarify that this is an annual estimate from monitoring in 2001, and that multiple years of operation could increase the amount of potential disturbance. The EIS should describe the duration or number of operating seasons that are being considered in the alternatives, and then disclose effects associated with that number of seasons. For example, cumulative effects to aquatic habitat associated with three years of seasonal operation may be very different than 10 to 20 or more years of seasonal operation.

**Recommendation:**

- We recommend that the EIS define the duration of potential disturbance and clarify or base the effects analysis on this duration.

**Restoration**

The DSEIS conceptually describes the Lolo #5 stream improvement project included in Alternative 3. The FEIS should include a more detailed description of the work to be performed and include a map and diagrams illustrating design concepts. This information is needed for the

public to understand and comment on the need for stream improvement and expected effectiveness of the reclamation envisioned. In addition, one component of the reclamation is armoring of the stream bank. We recommend that you consider alternatives to armoring (for example, soft reclamation techniques using soil pillows, root wads, etc.) to accomplish the same objectives. We would be willing to meet with you to discuss ideas in this regard. It would also be helpful to discuss the degree of disturbance in the watershed from other past operations. This would provide context and may help to determine where restoration should be focused.

***Recommendations:***

- We recommend that the EIS provide additional information about historic mining and disturbance in the watershed.
- We recommend that the EIS provide details and figure(s) on the proposed restoration design.

**Reclamation**

Section 1.7.3.1 notes that reclamation bonding would be required, costs would be determined on a case-by-case basis, and that the operator would provide a financial guarantee to perform reclamation work. We recommend that the EIS provide additional information on this topic to inform the public and decision maker on the risks posed to the environment should an operator be unable or unwilling to complete reclamation.

***Recommendation:***

- We recommend that the EIS include detailed information regarding reclamation and bonding. Additional information should include:
  - Types of reclamation activities that may be anticipated (re-filling dredge holes, hauling out equipment or refuse, and the like).
  - Anticipated cost to the FS of implementing such reclamation tasks should the operator be unable or unwilling to do so.
  - The types of financial guarantees that would be acceptable, and information on whether such types are secure and accessible if the need arises.
  - Information on how and when bonds would be updated.

**Climate Change**

Currently, there are concerns that continued increases in greenhouse gas emissions resulting from human activities contribute to climate change. Effects of climate change may include changes in hydrology, sea level, weather patterns, precipitation rates, and chemical reaction rates. EPA believes that the cumulative effects analysis in the NEPA document should include changes to resources that can reasonably be anticipated due to climate change that may have bearing on aspects of the project (e.g. changes in hydrology that may increase sediment). We are concerned that reasonably foreseeable impacts of climate change on the project area are not addressed and we support incorporating climate change adaptation into the project's decision making process.

With relationship to aquatic resources in the project area the analysis should consider, for example, additional sediment loading from high precipitation events in conjunction with dredge operations and those effects to water quality related to turbidity and salmonid spawning habitat.



EPA understands that many questions surrounding climate change remain unanswered. Although there may be little if any effects on the project, a discussion should be included considering potential impacts related to this topic. We have included a list below of resources that may be helpful in considering climate change impacts and adaptation discussions in the document. We also recommend referring to the University of Washington's Climate Impacts Group website (<http://cses.washington.edu/db/pubs/allpubs.shtml>) for a compilation of additional publications on research related to climate change.

*Suggested Climate Change References*

Botkin, D.B. et al., 2007. Forecasting the effects of global warming on biodiversity. *Bioscience* 57, 227–236.

Grace, J., Berninger, F., Nagy, L., 2002. Impacts of climate change on the tree line. *Annals of Botany* 90, 537–544.

Morin, X., Thuiller, W. 2009. Comparing niche- and process-based models to reduce prediction uncertainty in species range shifts under climate change. *Ecology*, 90(5), 1301-1313

Peterson, David L., McKenzie, Don. 2008. Wildland Fire and Climate Change. (May 20, 2008). U.S. Department of Agriculture, Forest Service, Climate Change Resource Center. <http://www.fs.fed.us/ccrc/topics/wildland-fire.shtml>

Ruggiero, Len; McKelvey, Kevin; Squires, John; Block, William. 2008. Wildlife and Climate Change. (May 20, 2008). U.S. Department of Agriculture, Forest Service, Climate Change Resource Center. <http://www.fs.fed.us/ccrc/topics/wildlife.shtml>

SAP 4.4. Adaptation Options for Climate-Sensitive Ecosystems and Resources | National Forests. <http://www.climatescience.gov/Library/sap/sap4-4/final-report/sap4-4-final-report-Ch3-Forests.pdf>.